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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named

Inventor : William M. Radich

Appln. No.: 10/607,967

Group Art Unit: 2133

Filed : June 27, 2003

For : COMPUTATION OF BRANCH METRIC
VALUES IN A DATA DETECTOR

Examiner:

Mujtaba M. Chaudry

Docket No.: S104.12-0037/STL 11305

RESPONSE

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I HEREBY CERTIFY THAT THIS PAPER IS
BEING SENT BY U.S. MAIL, FIRST CLASS, TO
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2006.


PATENT ATTORNEY

Sir:

This is in response to the Office Action dated October 19, 2005. In the Office Action, all pending claims 1-20 were rejected. Applicants respectfully request reconsideration and allowance of all pending claims.

On page 2 of the Office Action, FIGS. 1 and 2-1 were objected to for not including a legend such as --Prior Art--. The Office Action suggests that, according to MPEP § 608.02(g), this legend is required in FIGS. 1 and 2-1 because only that which is old is illustrated in these figures.

Applicant respectfully points out that FIGS. 1 and 2-1 include components in which embodiments of the present invention are implemented and therefore do not qualify as prior art figures under MPEP § 608.02(g). For example, control circuitry 130 of disc drive 100 (FIG. 1) can include components of read channel 200 (FIG. 2-1) in which embodiments of the present invention are implemented. (See page 4, lines 13-19 of the Specification). In essence, FIGS. 1 and 2-1 are high-level drawings, and the

remaining figures show implementation details and experimental results, of embodiments of the present invention. Thus, the objection to the drawings should be withdrawn.

On page 3 of the Office Action, claims 1, 2, 7, 8, 11, 12, 17, 18 and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Kavcic et al., U.S. Patent No. 6,438,180 (hereinafter referred to as Kavcic). On page 6 of the Office Action, claims 3-6, 9-10, 13-16 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kavcic.

Claim 1 includes "computing the branch metric values as a function of transition jitter statistics corresponding to the signal samples." (Emphasis Added.)

The Office Action suggests that Kavcic (abstract and FIG. 1) teach the above element, and other elements, of claim 1. The abstract of Kavcic states that:

"The method includes receiving a plurality of time variant signal samples, the signal samples having one of signal-dependent noise, correlated noise, and both signal dependent and correlated noise associated therewith. The method also includes selecting a branch metric function at a certain time index and applying the selected function to the signal samples to determine the metric values."

Nothing in the above language, or in Kavcic's Fig. 1 (which is a general illustration of a magnetic recording system), teaches or suggests computing the branch metric values as a function of transition jitter statistics corresponding to the signal samples, as required by claim 1. In fact, the entire Kavcic reference includes nothing about transition jitter or transition jitter statistics.

Page 9 of the Applicant's specification describes transition jitter as being a component of media noise that is dependent upon data transitions. Transition jitter statistics

include statistical data corresponding to transition jitter, such as transition jitter variance. The present invention computes branch metric values by treating noise as transition jitter. In contrast, Kavcic's computation of branch metric values is based on treating noise as a non-stationary, Gauss-Markov process, which is unrelated to transition jitter based branch metric value computation.

For the above reasons, it is believed that claim 1 is patentably distinct and non-obvious over the Kavcic reference.


Independent claims 11 and 20 have elements similar to that of independent claim 1. Thus, for the same reasons as independent claim 1, Applicants submit that independent claims 11 and 20 are allowable as well. Moreover, Applicants respectfully submit that the dependent claims are also allowable by virtue of their dependency, either directly or indirectly, from the allowable independent claims. Further, the dependent claims set forth numerous elements not shown or suggested in the Kavcic reference.

In view of the foregoing, Applicants respectfully request reconsideration and allowance of pending claims 1-20. Favorable action upon all pending claims is solicited.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 
Alan G. Rego, Reg. No. 45,956
Suite 1400 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

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